**Detailed List of Skills for the Unit 2, Part 4 Notes – Enzymes**

AP Biology

For this notes packet, you should be able to…

1. Describe the difference between catabolic and anabolic processes. Determine whether these processes are typically endergonic or exergonic.

**Location within the Notes:** 2-3

**Questions on Assignments that Relate to this Skill:** #1 and 10 in the Notes Questions

1. Describe the difference between an endergonic and exergonic reaction and be able to identify each based on the free energy changes shown in a graph.

**Location within the Notes:** 4d i and ii

**Questions on Assignments that Relate to this Skill:** #9 in the Notes Questions

1. Explain the process of energy coupling, and relate this to the breakdown of ATP.

**Location within the Notes:** 4d iii

**Questions on Assignments that Relate to this Skill:** #2 in the Notes Questions

1. Explain how enzymes affect the activation energy of a reaction. Also, be able to identify a graph of an enzyme-catalyzed reaction vs. a reaction without an enzyme.

**Location within the Notes:** 5a-d

**Questions on Assignments that Relate to this Skill:** #3 in the Notes Questions, #25 in the Review Packet (Must Knows)

1. Explain how enzymes facilitate the breakdown of a substrate into multiple products or the joining of substrates to create a larger product. Also, describe the induced fit model of enzyme/substrate interaction.

**Location within the Notes:** 6a-f

**Questions on Assignments that Relate to this Skill:** #3 and 4 in the Notes Questions

1. Identify the enzyme, active site, substrate(s), and product(s) of an enzyme-catalyzed reaction shown in a diagram.

**Location within the Notes:** 6a-f

**Questions on Assignments that Relate to this Skill:** N/A

1. Explain how changes in the following factors affect the rate of an enzyme-catalyzed reaction: temperature, pH, substrate concentration, and enzyme concentration.

**Location within the Notes:** 7a-d

**Questions on Assignments that Relate to this Skill:** #5,6, and 8 in the Notes Questions, #26, 27, and 29 in the Review Packet (Must Knows)

1. Identify ways to measure the rate of an enzyme-catalyzed reaction.

**Location within the Notes:** N/A

**Questions on Assignments that Relate to this Skill:** #28 in the Review Packet (Must Knows)

1. Compare/contrast competitive and noncompetitive inhibition of enzymes.

**Location within the Notes:** 8a-b

**Questions on Assignments that Relate to this Skill:** #7 in the Notes Questions, #23 in the Review Packet (Must Knows)

1. Compare/contrast allosteric activation and inhibition of enzymes.

**Location within the Notes:** 8c

**Questions on Assignments that Relate to this Skill:** N/A

1. Compare/contrast negative and positive feedback.

**Location within the Notes:** 8d

**Questions on Assignments that Relate to this Skill:** #11 in the Notes Questions, #24 in the Review Packet (Must Knows)